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# Modules Lab Infrastructure

How do we structure today's working  
groups

# Goals

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## Getting more concrete

Generic lay outs, "Mickey Mouse" drawings, time evolution

## Explore Synergies

Shared access, shared infrastructures underground

Common scientific tools (low background counting)

## Targets of opportunities for earth scientists

e.g. monitoring large cavity

Requirements: systematic involvement during site exploration/planning/coring

## Incompatibilities

## Consensus on some generic characteristics

Physics: Deeper is better/ in which conditions do we need intermediate depth?

Separation/concentration, time evolution

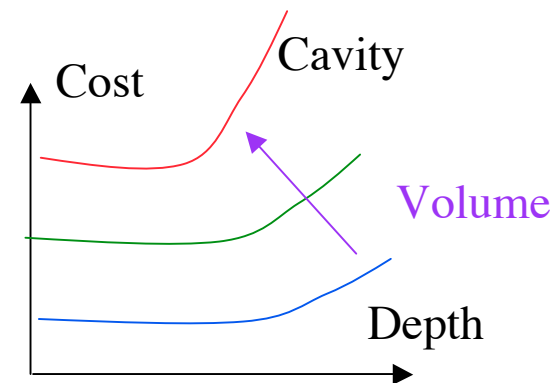
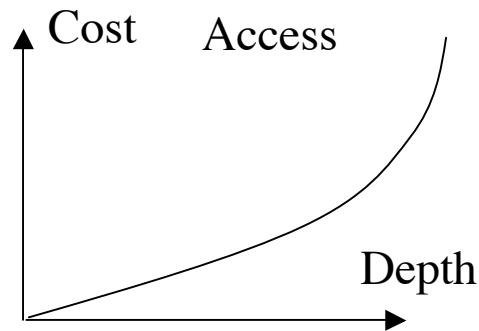
Depth span of geological experiments

# Methodology (the right way)

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## The right way: bottom up

e.g. Deeper is better but cost barrier



## Requirement matrices

Fill the requirement matrices (October?)

## Group generic experiments by requirements

=> generic lay outs

Experimental areas at different depths, star vs parallel layout

# What can we do today?

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At least for Physics, we have some rough ideas of requirement matrices

Some experiments really need depth, some much less demanding

Earthlab generic experiments + working groups

Play with scenarios, trying to be specific

Make sketches and identify questions

- More precise technical requirement matrix for Physics
- Relevant items of a technical requirement matrix for various Earth Science

Road map/Time sequence

# Proposed Three Groups

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## Small/clean as deep as possible Physics+Geo

(Yerba Buena)

Generic Dark Matter, Double Beta, Solar Neutrino

Deep biological observatory, deep geological experiments (virgin territory)

## Large: mostly physics but geo-monitoring

(Treasure)

Proton decay/long baseline neutrino

Significant geo/rock mechanics instrumentation

## Large instrumented earth science volumes

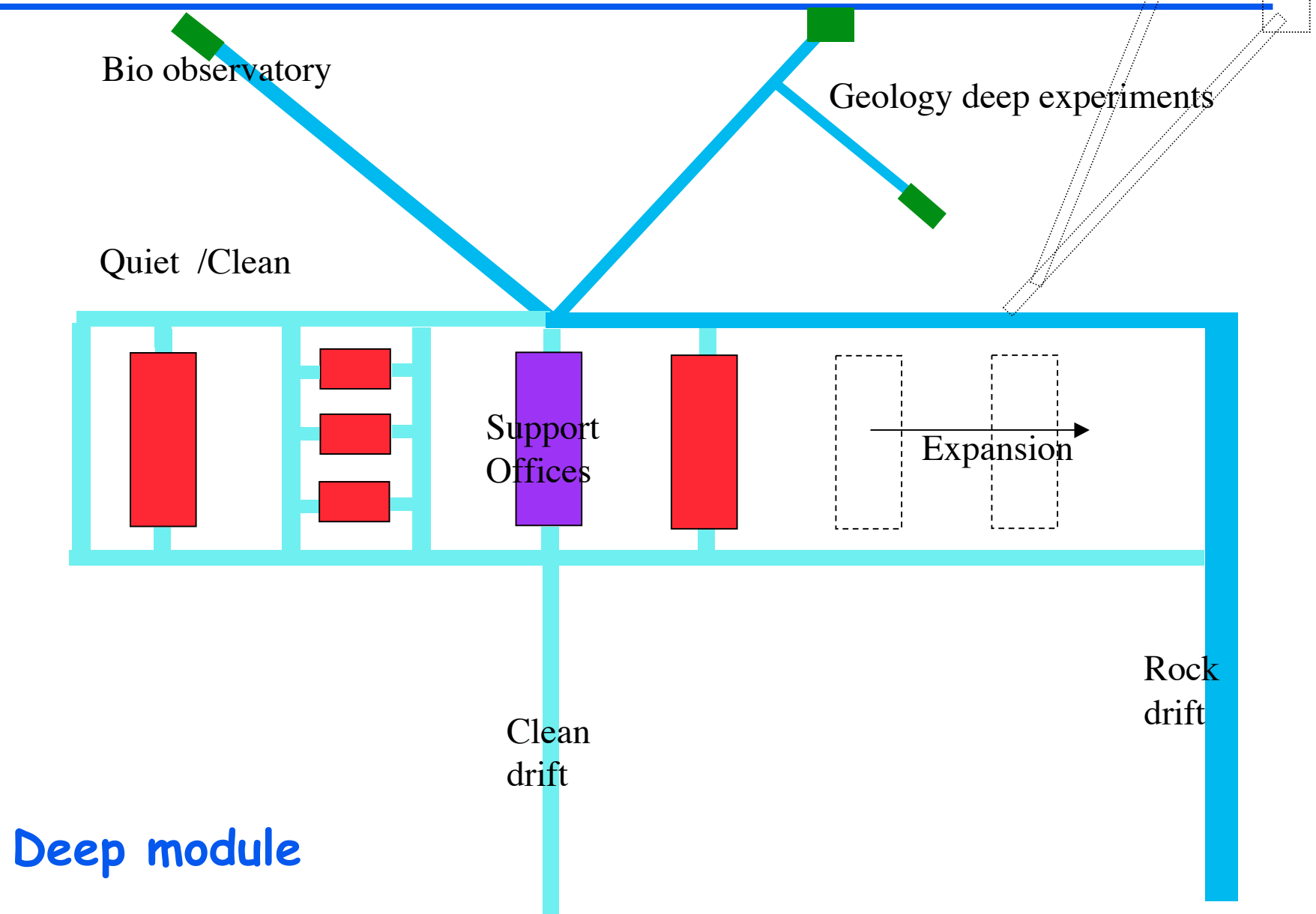
(Mariposa)

Systematic  $\text{Km}^3$  instrumented sand boxes or feature target of opportunity (e.g. major fault or very fractured zone)

Large scale geo/engineering experiments

Interest for physicists?

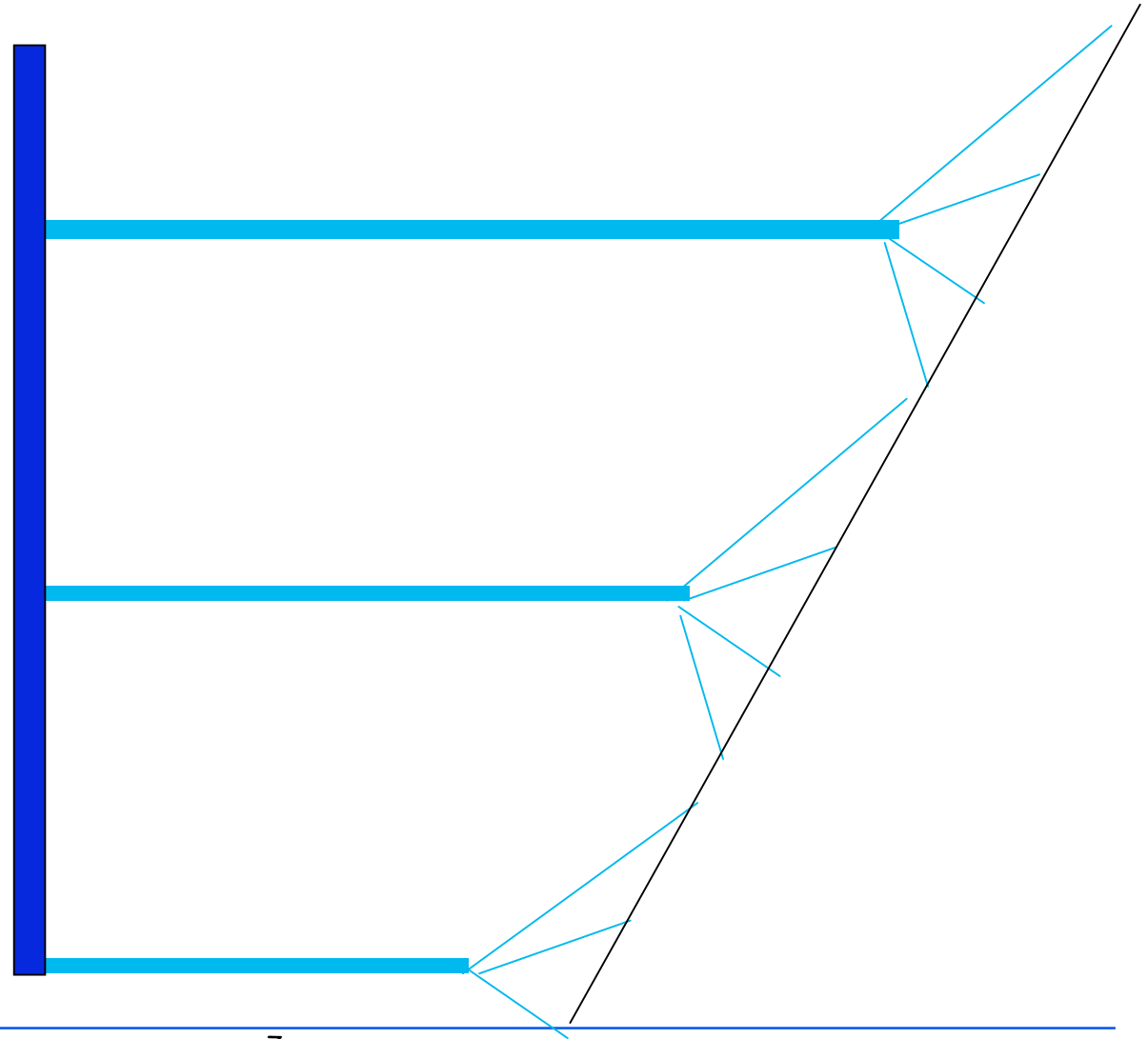
# Examples of sketches



# Sketch 2

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## Earth science module



# This Afternoon

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## Lab layout/flexibility/evolution

Lee Petersen (This room)

What can we say generically, as motivated by science?

## Support Underground /Surface facilities

Greg Hulne/Gene Sieve (Mariposa)

What can we say generically, as motivated by science?

## Management

David Berley (Amador)

Scientific oversight

Multidisciplinary

Involvement of other agencies/ industry

One site/ multi-site management, relation with existing facility

## Demand, relation to others facilities, international

Bernard Sadoulet (Eldorado)

Likely evolution: do we have a case?

Strategic aspects: why national?

Partnerships